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Brian Lo Bue

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EXAMINER

STRANGE, AARON N

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/618,950	Applicant(s) LO BUE ET AL.	
	Examiner AARON STRANGE	Art Unit 2448	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-10,12-33,36-40,42,43,45,46 and 48-88 is/are pending in the application.
- 4a) Of the above claim(s) 13-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-10,12,31-33,36-40,42,43,45,46 and 48-88 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2/16/09 have been fully considered but they are not persuasive.
2. With regard to claim 1, and Applicant's assertion that prior art of record fails to disclose "a network bridging task that identifies address information associated with the USB devices and the remote host control driver, and that passes the address information to the network protocol stack" (Remarks 29), the Examiner respectfully disagrees.

Ben-Dor discloses that the remote host control driver is identifiable by an IP address (§62) and that the USB devices are identifiable by globally unique identifiers (§64). Ben-Dor further discloses that all transfers from network hosts (such as the remote host control driver) to local bus devices are based on IP addresses and globally unique IDs (§64) and that all transfers occur via an IP tunnel that encapsulates the USB packets within IP packets for transport through the tunnel (§67 & §71).

Therefore, Ben-Dor teaches a network bridging task that identifies the address information associated with the USB devices and the remote host control driver and passes the information to the network protocol stack, since the addressing information is needed by the network protocol stack to properly address the packets and ensure that they reach the appropriate destination.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 31-33, 43, 46, 51, 53, 55-64 and 77-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ben-Dor et al. (US 2002/0141418) in view of Bondi (US 5,710,885).

5. With regard to claims 1 and 31, Ben-Dor discloses a USB remote host control driver (fig. 1C, 204, and paragraph 46), comprising:

a port for connecting to a network (201), said remote host control driver configured to communicate with one or more USB device adapters (RPS 205) via said port over the network, each of said one or more USB device adapters (205) having a discrete network address (IP address)(Fig. 1c and ¶41-42);

a network protocol stack, said protocol stack for encapsulating USB packets in network packets and for decapsulating USB packets from network packets (¶71), wherein the USB device adapters are coupled to USB devices (fig. 1c) that send USB packets to a USB protocol stack (USB devices communicate on the local bus using USB protocol)(¶62 & 73), which passes those packets to a network bridging task that identifies address information associated with the USB devices and the remote host

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control driver (all transfers from network use the IP address of the remote host control driver and globally unique IDs of the USB devices)(¶64), and that passes the address information to the network protocol stack (addressing information is used to create the packets containing the encapsulated local bus information)(¶67 & 71);

a polling routing configured to poll possible USB device adapters connected to the network (devices are polled if the network host has not yet received an RPS Announcement packet, the set of these devices is a “candidate list”)(¶136), and compile a master list of only the possible USB device adapters which responded to the polling (¶136 and 166-172) and are therefore currently capable of establishing a connection over the network;

a memory for storing the master list, the master list containing the discrete network address (IP address) of each of said one or more USB device adapters which responded to the polling and an corresponding identifier (globally unique IDs) of each USB device connected via the corresponding USB device adapter to the remote host control driver (¶63-64, 69 and 156-172). While Ben-Dor does not explicitly recite a memory storing the master list, it is necessarily present, and therefore disclosed by Ben-Dor (See Office action of 4/14/06, ¶5).

However, Ben-Dor fails to specifically disclose polling the devices in accordance with a candidate list initially configured with one or more possible USB device adapters and compiling a master list of only the USB device adapters from the candidate list that responded to the polling.

Bondi discloses a similar system for discovering and monitoring devices on a network (Abstract). Bondi teaches obtaining a candidate list of unpolled devices (list of nodes is obtained from the ARP cache, router table, or similar list)(col. 4, ll. 54-57) and polling the devices in accordance with the list (col. 4, ll. 54-57). A master list (topology database) of devices is then compiled from the devices that respond to the polls (col. 4, ll. 57-63). This would have been an advantageous addition to the system disclosed by Ben-Dor, since it would have allowed users to determine which RPSs are currently available based on which RPSs responded to the polling. It would have also allowed failed RPSs (RPSs on the candidate list that fail to respond to polls) to be detected so that appropriate repair measures could be taken.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a candidate list of all possible RPSs to poll each RPS and add it to a master list of available RPSs upon receiving a response to allow users to determine which RPSs are available at any given time.

6. With regard to claims 2 and 32, Ben-Dor further discloses that said polling routine is further configured to contact each of said USB device adapters which responded to the polling in accordance with the master list, identify each of said USB devices connected to each USB device adapter, and store the identifications of the USB devices in said memory (each device adapter transmits a topology of its local bus)(at least ¶¶68-69 and 159-172).

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7. With regard to claims 3 and 33, Ben-Dor further discloses that the network packets are Ethernet packets (¶90-91).

8. Claims 43 and 46 are rejected under the same rationale as claim 1, since they recite substantially identical subject matter. Any differences between the claims do not result in patentably distinct claims and all of the limitations are taught by the above cited art.

9. Claims 51 and 53 are rejected under the same rationale as claim 2, since they recite substantially identical subject matter. Any differences between the claims do not result in patentably distinct claims and all of the limitations are taught by the above cited art.

10. With regard to claim 55, Ben-Dor discloses a system comprising:

a universal serial bus (USB) remote control host driver (discussed regarding claim 1); and

at least one universal serial bus (USB) device adapter, said USB remote control host driver being connected to at least one USB device via said at least one USB device adapter over a network (at least ¶41 and Fig 1);

wherein each of said USB device adapters including:

a memory for storing an assigned network address (IP address, ¶42);

a network protocol stack, said protocol stack for encapsulating USB packets in network packets and for decapsulating USB packets from network packets (¶71);

a bridging task (USB tunneling redirector) for receiving USB packets (URBs) from one or more USB devices coupled to the corresponding USB device adapters and for passing USB device addressing information and said USB packets (¶69) to said network protocol stack (¶73).

11. With regard to claim 56, Ben-Dor further discloses that said polling routine is further configured to contact each of said USB device adapters which responded to the polling in accordance with the master list, identify each of said USB devices connected to each USB device adapter, and store the identifications of the USB devices in said memory (each device adapter transmits a topology of its local bus)(at least ¶68-69 and 159-172).

12. With regard to claim 57, Ben-Dor further discloses that the network packets are Ethernet packets (¶90-91).

13. Claims 58-64 are rejected under the same rationale as claims 55-57, since they recite substantially identical subject matter. Any differences between the claims do not result in patentably distinct claims and all of the limitations are taught by the above cited art.

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14. With regard to claim 77, Bondi further discloses:

dynamically detect that a new device has been introduced, enabled, or connected to the network (retrieved lists are automatically filled with new IP addresses when a new device connects to the network); and

generate a new candidate list in response to the detecting (new addresses are added to the candidate list and polled)(col. 6, ll. 47-50).

15. With regard to claim 78, Bondi further discloses:

periodically poll the network to determine that a new device has been introduced, enabled, or connected to the network (lists of new devices are periodically retrieved); and

generate a new candidate list in response to the detecting (new addresses are added to the candidate list and polled)(col. 6, ll. 47-50).

16. Claims 79-88 are rejected under the same rationale as claims 77 and 78, since they recite substantially identical subject matter. Any differences between the claims do not result in patentably distinct claims and all of the limitations are taught by the above cited art.

17. Claims 6-10, 12, 36-40, 42, 45, 48-50, 52 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ben-Dor et al. (US 2002/0141418) in view of Bondi (US 5,710,885) further in view of Krishnan (US 6,157,950).

18. With regard to claims 6 and 36, while the system disclosed by Ben-Dor shows substantial features of the claimed invention (discussed above regarding claim 1), it fails to specifically disclose an Internet gateway containing the USB remote host control driver.

Krishnan teaches connecting peripheral devices to a local area network and providing an Internet gateway to enable remote access to the peripherals via the Internet (Col 2, Lines 7-46 and Col. 3, Lines 21-28). This would have been an advantageous addition to the system disclosed by Ben-Dor since it would have allowed the USB devices to be accessed by hosts via the Internet, providing access to devices not typically accessible remotely (Col 1, Lines 46-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the USB remote control host driver into an Internet gateway in order to enable access to the USB devices via the Internet.

19. With regard to claims 7 and 37, Ben-Dor further discloses that the local network is an Ethernet (Fig. 1, 202, ¶¶90-91).

20. With regard to claims 8 and 38, Ben-Dor further discloses a processor for receiving unencapsulated USB packets from the protocol stack (¶¶71 lines 14-17).

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21. With regard to claims 9 and 39, Ben-Dor further discloses a connection to a local video monitor (Fig. 1c, 204).

22. With regard to claims 10 and 40, Krishnan further discloses a gateway connection to a local telephone (Col. 1, Lines 33-36).

23. With regard to claims 12 and 42, Krishnan further discloses a gateway connection to a public telephone network (Fig. 8, Col. 11, Lines 41-55).

24. With regard to claim 49, Ben-Dor further discloses that said polling routine is further configured to contact each of said USB device adapters which responded to the polling in accordance with the master list, identify each of said USB devices connected to each USB device adapter, and store the identifications of the USB devices in said memory (each device adapter transmits a topology of its local bus)(at least ¶¶68-69 and 159-172).

25. Claims 45 and 48 are rejected under the same rationale as claim 6, since they recite substantially identical subject matter. Any differences between the claims do not result in patentably distinct claims and all of the limitations are taught by the above cited art.

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26. Claims 50, 52 and 54 are rejected under the same rationale as claim 49, since they recite substantially identical subject matter. Any differences between the claims do not result in patentably distinct claims and all of the limitations are taught by the above cited art.

27. Claims 11 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ben-Dor et al. (US 2002/0141418) in view of Bondi (US 5,710,885) further in view of Krishnan (US 6,157,950) further in view of Gottfurcht et al. (US 6,611,881).

28. With regard to claims 11 and 41, while the system disclosed by Ben-Dor in view of Krishnan shows substantial features of the claimed invention (discussed above), it fails to specifically disclose means for connecting to a public television cable.

Gottfurcht teaches connecting to the Internet via a number of means, including a television cable (Col 5, Lines 39-43). Such a connection is old and well-known in the art and is known for its large bandwidth at fairly low cost. It would have been apparent to one of ordinary skill in the art that such a connection could be used if so desired by a system designer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to connect to the network via a public television cable.

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29. Claims 65-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ben-Dor et al. (US 2002/0141418) in view of Bondi (US 5,710,885) further in view of Official Notice.

30. With regard to claims 65 and 66, while the system disclosed by Ben-Dor shows substantial features of the claimed invention (discussed above), it fails to disclose how the candidate list is configured, only noting that it is a list of devices from which a RPS announcement multicast has not been received.

The Examiner takes Official Notice that it was notoriously well known in the art at the time the invention was made to automatically configure lists of network devices using “plug-and-play” type routines as well as manually configure the list of devices via user input. One of ordinary skill in the art would have been aware of these alternatives and would have weighed the benefits of automatic configuration such as speed and convenience with the customization that manual configuration allows.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to permit automatic or manual configuration of the candidate list.

31. Claims 67-76 are rejected under the same rationale as claims 65 and 66, since they recite substantially identical subject matter. Any differences between the claims do not result in patentably distinct claims and all of the limitations are taught by the above cited art.

Conclusion

32. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON STRANGE whose telephone number is (571)272-3959. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on 571-272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron Strange/
Examiner, Art Unit 2448